

Species

Galeodes indicus Pocock, 1900 (Arachnida, Solifugae): First site record for Telangana, India

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ABSTRACT

Galeodes indicus (Pocock, 1900), the solifugid has been earlier reported from Nallamalla hills in Andhra Pradesh (united Andhra Pradesh) but was hitherto unknown from Telangana state, India. In this paper we give the first report of the sun spider with notes on the external characters and morphometry of the specimen.

Keywords: Solifugids, Telangana

1. INTRODUCTION

Solifugids, commonly known as sun spiders or camel spiders, are a small group of arachnids found mainly in arid and semi-arid regions worldwide (Cloudsley-Thompson, 1977). They are spectacular looking arachnids and related to Scorpiones and Araneae but belong to neither of them. Solifugids and pseudo scorpions are placed in the same group on the basis of large two-segmented chelicerae, pedal patella enlarged often being longer than femur and have trachea rather than book lungs). Solifugids are easily distinguished from other arachnids by the presence of sensory organs - Malleoli or Racket organs, on the ventral surface of coxae and trochanters of legs IV.



Figure 1

Northern Galeodes *Galeodes indicus* Pocock, 1900 (Order: Solifugae)

Camel spiders:

They are found in desert

regions usually seen during the spring and summer months hence the name. Wind spider, sun spider, wind scorpion, are the other names widely used for camel spiders.

Pseudoscorpions:

Solifuges are closest relatives to pseudoscorpions, both being placed in the same clade of Haplocnemata based on the large two segmented chelicerae.

Worldwide, order Solifugae includes 1,116 species belonging to 144 genera and 13 families. The family Galeodidae consists of 201 species of 9 genera distributed worldwide. In India, the family Galeodidae is represented by a single genus *Galeodes* Olivier, 1791 which includes 13 species. This paper gives the first record and description of *Galeodes indicus* Pocock, 1900 from Telangana region of Andhra Pradesh, India, after its type description.

2. MATERIALS AND METHODS

During one of our regular faunal surveys, we found a dead solifugid specimen on the 26th of June, 2013 around 9:30pm at Uyyalavada (16°30'N and 78°16'E), near Nagarkurnool, Mahbubnagar district, Telangana, India. The dead specimen was photographed using Canon SX30 and later preserved for further analysis. The preserved specimen was photographed using Fujifilm super macro and Sony Cybershot digital camera mounted on the eye piece of a Lawrence and Mayo stereo zoom microscope. The specimen is deposited in the collection of the Natural History Museum of Osmania University, Hyderabad. All measurements, presented in millimetres, were taken following Pocock (1900).

2.1. Abbreviations

Fe, femur; OUNHM, Osmania University Natural History Museum; Pa, Patella; Ta, Tarsus; Tib, tibia.

2.2. Material Examined

One male (OUNHM.ARA.SOL.2013.1); Uyyalavada Village (16°30'N and 78°16'E), near Nagarkurnool, Mahbubnagar district, Telangana, India; 26th of June, 2013, coll. K. Krishna Prasad.

2.3. Diagnosis

The specimen collected was identified as belonging to the family Galeodidae, basing on the tarsus of palp being narrow at the base and freely articulating with tibia; stalk of claws hairy; and, as belonging to the genus *Galeodes* basing on the presence of, a row of reddish bristles upon the posterior border of the 5th abdominal sternum. The collected specimen was identified as a male specimen basing on the presence of flagellum furnished above at the base of the upper jaw.

Malleoli:

Or racket organs are the sensory organs present on the ventral surface of coxae and trochanters of leg IV. Presence of malleoli is a distinct character that distinguishes Solifuges from all other arachnids including pseudoscorpions.

3. DESCRIPTION OF MALE (OUNHM.ARA.SOL.2013.1)

Head darker, mandibles yellow with brown spines, abdomen dorsum infusate, dorsal plates dark. Palp and legs yellowish, tibia of palp and tibia, patella, tarsus of legs are infusate. Dentition of mandibles: Upper jaw with eight minor and nine major teeth, lower jaw with three minor two major teeth. The dentition was observed with the help of digital photographs and with help of observations under a dissecting microscope. Flagellum long, not straight, the blade longer than the handle. Palpi very long with setiform spines, exceeding the height of the segment. Tibia armed with longer and shorter spines. Tarsus of IV leg with pad of brown setae.

3.1. Measurements (in mm)

Total length: 30.62, Width of head: 6.46, Mandible length: 9.10, palp (Fe+pa+tib+ta): 14.88+12.76+10.57+2.42=40.63, Leg I (Fe+pa+tib+ta): 10.27+9.29+6.03+2.57=28.16, Leg III (Fe+pa+tib+ta): 8.21+8.42+7.20+3.14=26.97, Leg IV (Fe+pa+tib+ta): 12.07+12.35+9.30+6.30=40.02.

4. RESULTS AND DISCUSSION

Pocock (1900) reported the species from India based on type collected from Bilaspur, and further described two subspecies, namely *obscurior* (type collected from Pimpalner, Maharashtra) and *australis* (type collected from Secunderabad, Andhra Pradesh). Presently, the subspecies *obscurior* is in the synonymy of *Galeodes indicus* (Whittick, 1939) and the subspecies *australis* recognized as a full species (Harvey, 2003). Distribution-wise, Pocock (1900) opined that the nominate form (along with *obscurior*) is the northern form and *australis* the southern form (Figure 1). Pocock (1900) categorized the subspecies on basis of spine armature and colour of legs. *Galeodes australis* (*Galeodes indicus* ssp. *australis* vide Pocock, 1900) differs from *Galeodes indicus* in the spine armature of tarsi of legs (Pocock, 1900). The tarsi of II and III legs of *Galeodes australis* are armed with 1 or 2 posterior spines, the spine armature of *Galeodes indicus* is armed with 4-5 pairs of short and stout spines on the tarsi of II and III legs and the posterior spines are absent. In Andhra Pradesh, two species - *Galeodes indicus* and *Galeodes australis*, have been reported so far; the former species has been reported from the Nallamala Hills based on four specimens collected from Sundipenta and Srisailem in Kurnool district (Rao et al., 2005), and the later has been reported from Secunderabad in Hyderabad district (Pocock, 1900). Future comparison of the specimens of *Galeodes* genus from Andhra Pradesh will provide better insights about the distribution range of *Galeodes indicus* (and its southern boundary), *Galeodes australis* (and its northern boundary), and overlaps in their ranges. The present record of the Northern *Galeodes* from Nagarkurnool, Mahbubnagar is the first report of the species from the Telangana region.

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